

Comparison of Mental Health between First-Year College Students Residing in Living-Learning
Communities and Traditional On-Campus Housing

An Honors Thesis Presented to the Faculty of the Department of Psychology
East Carolina University

In Partial Fulfillment of the Requirements for the Degree
Bachelors of Arts in Psychology and University Honors Status

Heather L. Wiles

Fall 2013

TABLE OF CONTENTS

Chapter I: Introduction and Literature Review.....	4
Living-Learning Community Defined.....	5
History of LLCs.....	7
LLC Research.....	8
Mental Health Risk.....	10
College Adjustment.....	12
Stress.....	12
Anxiety Symptoms.....	13
Depressive Symptoms.....	15
Conclusion.....	16
The Current Study.....	16
Chapter II: Methods.....	18
Research Overview.....	18
Design.....	18
Participants.....	19
Recruitment.....	19
Participation Rates.....	20
Sample Demographics.....	20
Group Descriptions.....	23
Procedures.....	26
Measures.....	28

Data Analysis.....	31
Chapter III: Results.....	33
Data Screening.....	33
Potential Covariates.....	33
Descriptive Statistics.....	35
Hypothesis Testing.....	35
Chapter IV: Discussion and Conclusion.....	39
Practical Implications.....	42
Strengths.....	43
Limitations.....	45
Future Directions.....	46
References.....	47
Appendix A: IRB approval.....	51
Appendix B: Measures.....	55

Chapter I: Introduction and Literature Review

College can be an exciting time. For many first-year students this is the first time leaving home and gaining true independence. This newfound liberation can produce feelings of stress, sadness, and anxiety as students embark on the next four years of their lives. Often, these young adults find alternate outlets for these feelings by experimenting with risky behaviors that can affect their health. These behaviors can also lead to missing class and a decreased focus on studying, and in turn, poor grades. This creates a problem for administrators in higher learning because they must find a way to reduce these risky behaviors, neutralize mental health problems and ensure the students are successful on an academic front.

The creation of Living-Learning Communities highlights a seemingly simple solution to these challenges. In particular Wellness Living-Learning Communities provide a safety net for the development and continuation of positive and healthy behaviors that can be carried into adulthood. According to Pike, Schroeder and Berry (1997), these communities make students feel empowered to avoid risk behaviors and promote positive mental health. In general, Living-Learning communities also provide students with a low-stress environment where they can meet other first-year students with common interests. This low-stress environment helps reduce mental health problems by aiding in their transition into the first-year of college and teaching them to stay positive when stricken with conflict. According to the National Study of Living-Learning Programs (Inkelas, 2007), such communities provide students with experience in service learning, help strengthen their community relations and promote leadership. The combination of in class and out of class skill development helps give these students a basis to be positive influences to other students and their community around them.

Living-Learning Community Defined

Defining the concept of a Living-Learning Community can be very difficult because it is not a concrete idea with a single description or definition. Living-Learning Programs serve a large range of age groups and address a number of topics. These programs developed slowly over time, in many different locations, as administrations in higher education saw the need for a more structured environment for students. For the purpose of this study, the focus of this section will be on higher education Living-Learning Programs, more often referred to as Living-Learning Communities (LLCs).

Although many different models and constructs for learning communities exist, they have many academic and social features in common. For the purposes of this study, a Learning Community is defined as a community that enables students to live and learn together in a more inclusive and supportive atmosphere that addresses the academic and personal needs of each individual student (Pike, Schroeder and Berry 1997). By living in a learning community, students maintain constant contact with one another and spend a substantial amount of time in common intellectual activities (Eck, Edge and Stephenson 2007; Zhao and Kuh, 2004). According to Lenning and Ebbers (1999) a learning community must take on one of these four generic forms:

1. Curriculum based learning communities are composed of students co-enrolled in at least two courses, from different disciplines, that are linked with a common theme.
2. Classroom based learning communities identify the classroom as the center for learning techniques that emphasize cooperation and group learning as the primary teaching process.
3. Residential learning communities promote on-campus living and require that students

take two or more common courses while living in close proximity, in hopes that the opportunity for out-of-class interactions and learning opportunities will increase.

4. Student category or classification based learning communities target specific groups: first-generation students, minorities, all girls, honors students, students with disabilities, or students with similar academic interests such as math, the sciences, or the arts.

Active and collaborative learning activities in the classroom, combined with academic and social activities outside of the classroom, give students a sense of belonging within their institution of higher learning. For this reason, LLCs are often aimed to accommodate freshmen, or first-year students, in order to ease their transition into college. Based on the four generic forms above, the focus of this study is on residential learning communities combined with student-type learning communities and curriculum based learning communities. This study focuses on LLCs with the themes of wellness and academics. Individuals in these communities interact with faculty and staff to enhance their first-year learning experience.

East Carolina University (ECU) has created a general description of what a LLC must have before obtaining official affiliation with the university. Students enrolled in the program must reside in the same hall and take a minimum of two courses together, which are often associated with the specific theme of the community. For example, the Wellness Living-Learning Community (WLLC) requires that students take Health and Exercise together and the Biological Living-Learning Community (BLLC) students are required to take the first two courses in General Biology and General Chemistry together. Both communities also take a seminar called COAD, a course to help prepare first-year students for college and their future in general, by teaching them how to study and manage their time, positive behaviors, and some financial

instruction. The LLCs at ECU must also contain a non-academic aspect, such as group bonding activities and volunteer work. For example the BLLC takes a trip once per semester to the ropes course to promote teamwork and the WLLC requires that each student volunteer at least five hours. These extracurricular activities help foster their self-growth outside of the classroom.

History of LLCs

Individuals in the field of LLCs credit the creation of such programs to Alexander Meiklejohn who developed the short-lived “experimental college” program at the University of Wisconsin in 1927. This program was designed to give students a controlled and structured community in which to learn, but interest in the program teetered off and it was eventually removed from campus (Smith, 2001). In a later study by Smith and colleagues (2004) they attributed the failure of Meiklejohn’s community to its weak structure and poor communication amongst the administration at the university. While the experiment did not last long enough to show significant results it was still used as inspiration for many others who desired a structured learning community. Protégés of Meiklejohn created programs such as “Voices of America” and the “Experiment at Berkeley” (Inkelas, Soldner, Longerbeam and Brown, 2008; Smith, 2001).

Another fleeting version of LLCs emerged in the 1960s and was then followed by a significant boom in higher education growth and the increase of individuals attending universities. This created a shift in the ideas of LLCs and a more contemporary design arrived in the 1980s. This contemporary program focused on the specific need of student engagement in and out of the classroom for personal growth, educational success, and leadership development (Kuh, 2003; Zhao and Kuh, 2004). In the 1990s, LLCs continued to pick up speed and by the 2000s they were becoming popular programs on campuses all over the United States (Smith, MacGregor, Matthews and Gabelnick, 2004). Since then, there has been a call for significant

research on the utility of LLCs. Today, all LLCs have a basis in the social norms theory, which uses a counter approach to inform students about behaviors occurring on their campus in hopes to eliminate unhealthy behaviors. One of these approaches includes providing students with counter-statistics about healthy behaviors. A counter-statistic is the percent of people not performing a certain behavior rather than the percent that are, which can inadvertently cause some students to increase their unhealthy behaviors. By empowering them with information and the tools they need, LLCs can utilize this theory to reduce health risks and mental health symptoms (Berkowitz, 2004). As their popularity increases, researchers need to further investigate the effectiveness of these communities on many different aspects of student life.

LLC Research

While LLCs have grown over time to focus on multiple fields and to address concerns on college campuses, one of the initial purposes was to improve student GPA and retention. For this reason, the majority of LLC research focuses on studies that look to validate these communities based on higher rates of retention and significantly better GPA than students in other housing (Stewart, 2008). This was later expanded when communities began to be based on themes. One study by Butler and Dawkins (2008) looked to evaluate how a health based learning community effected academics such as GPA and retention. Yet another study looked at an academic based learning community in order to assess retention rates over time at a 4-year institution (Hotchkiss, Moore and Pitts, 2003). While these studies make positive contributions to research on LLCs they do not look to explain why individuals in LLCs have higher GPA and better retention than students who do not.

Bozick (2007) took previous research a step further when he attempted to look at how socioeconomic status affected academic performance. That same year, Eck, Edge, and

Stephenson, presented a study on first-year LLCs, community engagement and how they affect academics. Inkelas, Daver, Vogt, and Leonard (2007) hoped to find a correlation between first year students residing in LLCs and increased retention rate. All of these studies have a heavy basis in academics and do not put an emphasis on the possibility of other variables that could also be effecting academic success. They also do not look to differentiate between types of LLCs or if the data is significantly different from students living in traditional, non-LLC housing.

There have been a handful of studies that stepped away from the academic realm and began to address other aspects of LLCs, such as Brower, Bruffee, and Zeller, who in 2002 sought to evaluate the extent to which these communities were discouraging binge drinking. Again in 2008, Brower reproduced a similar study that looked at binge drinking in themed LLCs. Kurotsuchi and Weisman (2003) looked at how typology of LLCs effect a series of outcomes including academics and college adjustment. While there are an increasing number of studies coming out in regards to LLCs, up to this point, none have been able to address the idea that there could be multiple variables affecting the academic outcomes.

It wasn't until 2012, that someone decided to collaborate multiple faucets previous research into one project. Martin (2012) looked at the effects of an Art themed LLC on GPA, retention, graduation rates, alcohol consumption, and how mental health such as anxiety and depression effected these other variables. While this project addressed many of the gaps in previous research there still exists and significant deficit that evaluates how LLCs effect health risk behaviors, such as sexual activity, alcohol consumption , and drug use, and how LLCs impact mental health, such as symptoms of anxiety and depression, stress, and college adjustment.

Mental Health Risk

According to the ACHA (2012), stress, anxiety and depression are the top mental health risks among undergraduates. The National Alliance of Mental Illness (NAMI, 2010) reported that 75% of individuals with lifetime cases of mental illness experienced the first symptoms of their illness before the age of 24. Many of these illnesses are diagnosed during the traditional college years (18-24), which can be challenging for students, parents and the college community (Martin, 2012). These mental health issues not only affect the students experiencing them, but also their families, other students, and the campus community. They can also have a severe impact on academic performance, retention, and success at the university level. For instance, college students with mental health concerns often complete fewer hours compared to students without these issues (Hefner and Eisenberg, 2009).

Data from the spring 2011 National College Health Assessment (NCHA) survey of more than 109,000 students, from 129 institutions of higher education, indicate that college students often experience significant mental health concerns that have negative consequence on the academic experience (ACHA, 2011). Respondents indicated that stress (25%), sleep difficulties (18%), anxiety (16%) and depression (10%) negatively impacted their academic performance (ACHA, 2011). Students also reported that in the previous 12 months, they felt overwhelmed (84%), exhausted--not from physical activity (78%), overwhelmingly anxious (46%), and depressed to the extent that it was difficult to function (28%) (ACHA, 2011).

Given that students in higher education environments experience mental health issues at an alarming rate, colleges and universities must find new avenues, in addition to traditional mental health delivery services, to reach out and address the needs of students. A number of universities recognized this serious issue and created new policies and procedures to respond to students'

mental health concerns, such as providing all of their students with counseling services information and offering seminars that talk about symptoms of mental health . In addition, a number of other programs have been developed to improve college student mental health. Some of these programs include the National College Depression Partnership, the Healthy Minds Study, Mental Health First Aid Training, Behavioral Intervention Teams, and Case Management models (Martin, 2012).

New research is beginning to explore the impact of LLCs on mental health, and the overall well-being of individuals residing in these programs. As previously stated, a plethora of research exists regarding the relationship between college and mental health, research investigating how LLCs affect stress, anxiety and depression, does not yet exist, to the researchers knowledge. The majority of the LLC research surrounding college students' well-being has been focused on substance abuse and student retention (Brower, Bruffee, and Zeller, 2002; Hotchkiss, Moore and Pitts, 2003). Furthermore, these studies do not use the aforementioned mental health variables as outcomes, but rather looked at how they affected retention and grades. These residential LLCs strive to help students reach their full academic and personal potential, while also increasing retention and graduation rates on campus. As exhibited in these studies, mental health concerns have a negative effect on college student academic success and retention; thus, it is imperative that colleges and universities further explore this issue and develop appropriate supports and interventions to help students manage these concerns. A study conducted by Martin (2012), focused on measuring how mental health variables, such as stress and depression, and other health variables, such as alcohol affected learning of individuals in residential learning communities. The mental health outcomes of interest to the current study include college adjustment, stress, anxiety symptoms, and depressive symptoms

College Adjustment

For most, the first year of college is a time of significant changes where students gain their first taste of true freedom, but this new found freedom is accompanied by a multitude of stressors that can have adverse effects on students' lives. The way in which people decide to cope with these stressors can influence physical health, mental health and academic success. Several studies have indicated that college transition is associated with high levels of depression, loneliness, and increased physical health problems (Fisher, 1988). Fisher (1988) also concluded that the biggest problem with assimilating into the first-year is rather than focusing on their time in college, students tend to think back on their pre-college lives. Adjustment is difficult for many students because they have not yet found their footing in the new world of college. By reflecting back on a concrete point in their lives they create a false sense of calm that only prolongs the adjustment process. Pennebaker, Colden, and Sharp (1990) studied college transition as a way to evaluate the coping process. They found that while poor college adjustment was not found to be the best indicator of a students' physical health, it did have significant correlation to mental health problems. Future research should be looking for more effective ways to aid in the college adjustment process for first-year students and LLCs may be an appropriate solution to this problem.

Stress

Stress can have a strong negative influence on college students and their academic experience. A study done by Grizzell (2001) found that 30% of individuals were reported as high-stress and had significantly lower grades and GPA than those reported as low stress. Another study by the ACHA (2012) found that 28% of students feel that stress influences their

academic experience. Individuals reporting experiencing high stress also have more physical health problems (Martin 2012; Winter and Yaffe, 2000).

Stress is also influenced by students' transitions to college life. Winter and Yaffe (2000) found that increased stress levels during the first year in college resulted in more adjustment problems for students. Self-esteem and academic performance were negatively affected by stress. Among the individuals who reported having poor academic performance and self-esteem issues, 9% felt that stress was the reason for their low grades (Grizzell, 2001). These feelings often cause students to withdraw and push others away, thus creating an environment of loneliness (Nelms, Hutchins, Hutchins, and Pursley, 2007).

Martin (2012) noted that overall student mental health concerns are exacerbated by stress induced by college. This concept comes full circle, because contributing factors of stress are feelings of depression, anxiety, fatigue and exhaustion (Grizzell, 2001). For students living in campus residence halls, roommate conflicts, sleep difficulties, and lack of ability to study due to social factors greatly increased their stress levels (Martin, 2012). LLCs are striving to create policies such as compatibility pairing and roommate contracts to reduce stress. Themed LLCs bring together individuals with common interests, thus reducing the number of roommate conflicts. While institutions of higher learning cannot create completely stress-free environments, they are working to develop programs in LLCs that track and monitor mental health among its participants.

Anxiety Symptoms

According to NMSA (2002), the term anxiety has many different subcategories. For the purpose of this study we focus on generalized symptoms of anxiety, which are defined as mental and emotional symptoms of excessive and uncontrollable amounts of worry, without source,

regarding everyday tasks that normally would not be associated with worry (Speer, McFaul, and Mohatt, 2009). Many people use the words stress and anxiety synonymously because the feeling of anxiety is so closely associated with stressful experiences. Students who experience anxiety are more likely to develop depression (Trockel, Barnes and Eggest, 2000). Research indicates that “as many as one in five college students may suffer from depression, generalized anxiety disorder, or a panic disorder” (NMHA, 2002). In the Healthy Minds study, fewer than 50% of the participants who screened positive for anxiety or depression sought treatment for their distress. In an intervention conducted by a public university, high anxiety individuals were placed in stress management classes, but there were no significant findings when it came to academic performance (Martin, 2012). This shows that while such interventions are reducing anxiety they are not getting to the core of the problem which is ultimately treatment and programs need to develop a possible intervention to address this.

It has also been found that students who are highly involved and engaged on campus report greater levels of anxiety, mental exhaustion and stress. Due to the poor economy and employment rates, students are feeling more pressure to make themselves highly competitive. This pushes them to be more involved in extracurricular activities to boost their resumes. By being involved in these extra activities, students have little to no free time to give themselves relaxation, thus increasing their stress and ultimately anxiety symptoms. Due to their physical exhaustion and lack of time, they are also less likely to use alcohol and illegal drugs (Martin 2012). LLCs strive to promote and provide participants with engagement activities on campus. While LLC research has not been conducted with an emphasis on anxiety symptoms, based on the current research available on healthy behaviors in LLCs, one observes that while LLC participants consume less alcohol, they may experience more stress. Additional research should

investigate these variables and implications for why this relationship exists. This could include looking at why individuals in LLCs are high achieving and why these students place a great deal of pressure on themselves to do well academically. Also, why they do not invest time in maintaining social support systems.

Depressive Symptoms

There are important differences between depressive symptoms and the mental disorder categorized as depression. According to the NMHA (2002) depressive symptoms include trouble concentrating, fatigue, feelings of guilt, worthlessness or hopelessness, insomnia, mood swings, change in eating habits, persistent physical aches or pains, and thoughts of suicide. If someone has the majority of these symptoms and they persist every day for at least two weeks, then that individual could be diagnosed with depression. Depression and depressive symptoms are both very serious problems on college campuses. Eisenberg and colleagues (2007) reported that 14% of undergraduate college students experience depression. The effects of depression can have severe consequences such as decreased academic performance and overall social behavior. Spielberger and colleagues (1995) found that depressed students who used alcohol and other drugs were at an increased risk of suicide. Another group of studies found that college students experiencing depressive symptoms and who were not seeking treatment had lower grades and reported they felt uncompelled to complete coursework when compared to students who were not depressed or those receiving treatment (Grizzell, 2001; Martin, 2012).

In a study sampling 2,800 students at a public university, researchers found depression negatively influenced students' GPA (Hefner and Eisenberg, 2009). It was also reported that students who suffered from other mental problems, in addition to depression, had a further decrease in academic performance. Depression has also been found to have a direct

correlation with graduation rates, as individuals suffering from depression were less likely to continue to attend a university.

While there are many studies that look at depression on college campuses, to the researcher's knowledge, there are none that investigate a direct correlation between LLCs and depression or depressive symptoms. Further research needs to be conducted before a concrete statement about the association can be made.

Conclusion

Mental health risk has been shown to negatively influence the overall college experience as reflected by grades and retention rates of students. Stress, anxiety symptoms, and depressive symptoms are some of the major issues currently facing students in higher education. Studies have shown that first-year students are more susceptible to these issues because they are in a state of transition, which requires adjustment (Bozick, 2007; Purdie and Rosser, 2011). LLCs are becoming increasingly common on college campuses all over the United States. Many people hope to see a decrease in transitional issues for students participating in such communities. More research needs to be done to evaluate how effective LLCs are in easing the transition and adjustment to college and improving mental health outcomes.

The Current Study

The current study was designed to address gaps in LLC research, specifically the lack of studies examining the effects of LLCs on mental health outcomes, and few studies comparing effects of LLCs with different themes. Thus, the study was guided by the following two research questions: 1) are there differences in mental health outcomes between students residing in LLCs and those in traditional, non-living learning residence halls? And 2) are there differences in mental health outcome between students in LLCs with different themes?.

To answer the second research question, the study initially included on three LLCs, one of which had a wellness theme and the other two had academic themes. These communities include the Wellness Living-Learning Community (WLLC), which concentrates on reducing health risk behaviors, and the Jarvis Leadership Program (JLP), which empowers students to achieve academic success through leadership and community engagement, and the Biology Living-Learning Community (BLLC), which caters to biology and biochemistry majors with similar goals of achieving academic excellence,. Due to the small number of participants recruited from the BLLC, the data collected from this group were not included in the analyses.

The following study hypotheses are based on the current literature available on this topic and general knowledge about college student mental health:

H1: LLC participants will have better college adjustment, lower levels of stress, and fewer anxiety and depressive symptoms compared to non-LLC participants.

H2: The WLLC group will have better college adjustment, lower levels of stress and fewer anxiety and depressive symptoms compared to the JLP.

H3: The WLLC group will have better college adjustment, lower levels of stress, and fewer anxiety and depressive symptoms compared to non-LLC participants.

H3: Due to the highly competitive nature of academically based LLCs, the JLP group will have poorer college adjustment, higher levels of stress and more anxiety and depressive symptoms compared to the non- LLC group.

Chapter II: Methods

Research Overview

The purpose of this study was to compare mental health among college first-year students in themed LLCs to those in traditional, non living-learning dormitories, as well as between different themed LLCs. Mental health outcomes included college adjustment, stress, anxiety symptoms, and depressive symptoms.

Design

The research design was between groups, quasi-experimental with repeated measures. The study was quasi-experimental in that participants were not randomly assigned to experimental and control groups. A natural experiment (without randomization) occurs with the existence of LLCs and non-LLC residence halls on the ECU campus. The research project included four separate groups of first-year students residing on campus at ECU: 1) experimental group 1 included participants in a wellness themed LLC (WLLC); 2) experimental group 2 consisted of participants in a leadership academic themed LLC (JLP); 3) experimental group 3 consisted of participants in a biology academic themed LLC (BLLC); and 4) the control group was composed of participants who were not in a LLC (non-LLC). Data collection occurred at three separate times during the spring semester: at the beginning (Time 1, T1), midterm (Time 2, T2), and at the end (Time 3, T3). Approval for the use of human participants in research was sought from and granted by the Institutional Review Board (IRB) at ECU before any research took place. Approval of and support for this research were obtained from the WLLC staff, JLP staff, BLLC staff, and Campus Living staff from the freshmen residence halls.

Participants. In the spring 2013 semester, participants were sought from a selected freshmen on-campus population, based on the four-group design and inclusion criteria. The maximum number of participants from experimental group 1 (WLLC, total participants = 34), experimental group 2 (JLP, total participants = 74) and experimental group 3 (BLLC, total participants = 30) were attempted to be recruited. A maximum of 100 participants from the control group (non-LLC) were also attempted to be recruited. Male and female students of any race/ethnicity and socioeconomic status who meet the following inclusion criteria were recruited: 1) at least 18 years of age, 2) first-year students at ECU, 3) living on campus, and 4) no exposure to or experience with LLCs prior to coming to ECU.

Recruitment. Several recruitment strategies were used to maximize the sample size at each data collection point: 1) residence hall fliers posted on bulletin boards and in restrooms; 2) announcements made by residence hall advisors at hall meetings; 3) emails from the researcher that were forwarded from LLC Directors; 4) announcements made by the researcher in LLC common classes; and 5) description posted on the online research participation system used to manage an Introductory Psychology participant pool. The residence halls that students were recruited from included Garrett Hall, Jarvis Hall, Cotton Hall and Fleming Hall. These residence halls were chosen based on their housing of the specified LLC groups (for experimental groups) and on their location on West campus and the proximity to other buildings on campus (for control group). All students received identical information regarding the study, regardless of recruitment method or LLC membership.

Participation Rates

Table 1 provides a summary of the participation rates for each of the groups and the total sample at each of the data collection time points. An examination of the sample sizes for each of the groups at each of the time points led to the decisions to focus only on the T3 (end of semester) assessment instead of comparing groups across the three time points, and to drop the BLLC group from analysis¹.

Table 1. Participation Rates by Group and Timepoint

	Total		LLCs		BLLC		WLLC		JLP		Non-LLC	
	#	%	#	%	#	%	#	%	#	%	#	%
T1	110	100%	71	91%	15	100%	29	94%	27	84%	39	44%
T2	68	100%	47	60%	12	80%	18	58%	17	53%	21	24%
T3	112	100%	54	69%	9	60%	28	90%	17	53%	58	66%
T1 and T2	26	100%	12	15%	4	27%	2	7%	6	19%	14	16%
T1andT3	56	100%	48	17%	9	7%	26	29%	13	9%	8	1%
T1andT2andT3	42	100%	35	45%	8	53%	17	55%	10	31%	7	8%

Sample Demographics

Table 2 and Table 3 summarize the demographic characteristics of the participants. Group differences in demographic characteristics were examined using ANOVAs for the continuous variable of age and chi-square analyses for categorical variables of sex, race, and father and mother education (indices of socioeconomic status).

Table 2. Demographic Characteristics for Total Sample, LLC and Non-LLC Groups

Demographic	Overall			LLC			Non-LLC		
	n	Mean	SD	n	Mean	SD	n	Mean	SD
Continuous Variable									
<u>Age</u>	112	18.48	0.62	54	18.38	0.53	58	18.57	0.678
Categorical Variable	n	Within Group		n	Within Group	Between Group	n	Within Group	Between Group

¹ The pattern of results remained the same but with lower levels of significance when including the BLLC group in the analyses.

<u>Sex</u>								
Male	28	25%	13	26.00%	46.40%	15	25.90%	53.60%
Female	80	71.40%	37	74.00%	46.20%	43	74.10%	53.80%
<u>Race/Ethnicity</u>								
African American	21	18.80%	12	24.00%	57.10%	9	15.50%	42.90%
Caucasia/White	75	67.00%	33	66.00%	44.00%	42	72.40%	56.00%
Other	12	10.80%	5	10.00%	41.70%	7	12.00%	58.30%
<u>Father Education</u>								
Less than high school	2	1.80%	2	4.20%	100.00%	0	0%	0%
High school or equivalent (GED)	21	18.80%	11	22.90%	52.40%	10	17.20%	47.60%
Some college but no degree	29	25.90%	10	20.80%	34.50%	19	32.80%	65.50%
Advanced Degree (2-4 years)	29	25.90%	3	12.50%	11.50%	23	19.00%	88.50%
Graduate Degree	21	18.80%	14	33.40%	73.70%	5	8.60%	35.70%
<u>Mother Education</u>								
Less than high school	2	1.80%	1	2.10%	50.00%	1	1.70%	50.00%
High school or equivalent (GED)	10	8.90%	7	14.60%	70.00%	3	5.20%	30.00%
Some college but no degree	18	16.10%	5	10.40%	27.80%	13	22.40%	72.20%
Advanced Degree (2-4 years)	34	30.40%	10	20.80%	29.40%	24	41.40%	70.60%
Graduate Degree	41	29.50%	25	50.00%	59.50%	17	29.30%	40.50%

A total of 112 participants completed the T3 assessment. Of this total, 54 were members of LLCs and 58 were part of the control, or non-LLC group. Knowing the normal age for entering the first year of college is 18, the results are consistent with the average ages for each group being below 19. Overall, the gender distribution is what one would expect on a traditional college campus, with 71.4 % female, 25% male and the remaining percentage attributed to missing responses. This gender distribution remained constant over the LLC and non-LLC groups with no significant difference between them. For ECU, the actual ratio for freshmen this past year was 41% male and 59% female Race was not found to be outside the norm for a college setting, with the majority of participants coming from a Caucasian background, followed by African American and other minorities. Enrollment by ethnicity was 73.0% Caucasian, 14.5% African American, and 12.5% other minorities at ECU for fall 2012. The education level of

fathers and mothers demonstrated that almost all parents had at least a high school education or equivalent and the majority having a college degree (2-year, 4-year or graduate). The only significant group differences in demographic characteristics between LLC and non-LLC were for father and mother education. The LLC group had a greater percentage of fathers with graduate degrees and the non-LLC group had greater percentages of fathers with some college but no degree and 2- or 4-year degree [$X^2(4)=19.87, p=.001$]. The same significant pattern was observed for mother education [$X^2(4)=13.63, p=.009$].

Table 3. Demographic Characteristics for Wellness Living-Learning Community and Jarvis Leadership Program Groups

Demographic	WLLC			JLP		
	n	Mean	SD	n	Mean	SD
Continuous Variable						
Age	28	18.25	0.518	17	18.54	0.518
Categorical Variable	n	Within Group	Between Group	n	Within Group	Between Group
<u>Sex</u>						
Male	5	17.90%	17.90%	6	46.20%	21.40%
Female	23	82.10%	27.80%	7	53.80%	8.80%
<u>Race/Ethnicity</u>						
Caucasia/White	19	67.90%	25.30%	11	84.60%	14.70%
Minority	9	32.10%	81.80%	2	15.40%	18.10%
<u>Father Education</u>						
Less than High School, High school or equivalent (GED)	6	21.50%	60.00%	4	36.40%	40.00%
Some college but no degree	5	17.90%	71.40%	2	18.20%	28.60%
Advanced Degree (2-4 years)	3	10.70%	60.00%	2	18.20%	40.00%
Graduate Degree	12	42.90%	85.70%	2	18.20%	14.30%
<u>Mother Education</u>						
Less than high school, High school or GED, some college, but no degree	6	21.50%	75.00%	2	18.20%	25.00%
Advanced Degree (2-4 years)	7	25.00%	77.80%	2	18.20%	22.20%
Graduate Degree	15	50.00%	60.00%	10	63.60%	40.00%

For the LLCs, experimental group 1 (WLLC) had 28 participants and experimental group 2 (JLP) had 17. The demographic characteristics for these groups were consistent with those from Table 2. Again, the average age was found to be 18.25 for WLLC and 18.54 for JLP. For sex, the WLLC had an expected ratio of 5 males to 23 females, but the JLP group was almost equal with 6 men to 7 females. Race was primarily Caucasian (67.9% for WLLC and 84.6% for JLP) with few minorities in each group. The only significant group differences in demographic characteristics between WLLC, JLP and non-LLC groups were between the WLLC and non-LLC groups for the variables of age and father and mother education. The WLLC group had a lower average age compared to the non-LLC group [$F(1,85)=4.82, p=.031$]. The WLLC group had a greater percentage of fathers with graduate degrees and the non-LLC group had greater percentages of fathers with some college but no degree and 2- or 4-year degree [$\chi^2(4)=20.36, p<.001$]. The same significant pattern was observed for mother education [$\chi^2(4)=10.08, p=.039$].

Group Descriptions

Wellness LLC (experimental group 1). This program has 34 freshmen students who live on the same floor of Garrett Hall with other students in the program. This community incorporates health and wellness education learning in the students' courses and their everyday lives. Students are required to enroll in Health in Modern Society and Freshmen Seminar in the fall and Peer Health Training and Exercise in the spring. All students in the program are required to take these courses together along with attending wellness events such as body fat testing. Programming for these events is based off of eight dimensions of wellness: cultural, emotional, environmental, intellectual, occupational, physical, social and spiritual. This program works to foster students with similar interests, values, and goals. Before attending ECU, all students are informed of this program at open house and via an email inviting and showing them how to

apply to the program. Selection criteria for those who apply include an essay, letter of recommendation and volunteer experience. Two full-time staff and/or two graduate assistants select the most qualified individuals by reviewing these applications. Selection is also based on a desire to have a diverse group of students including gender, race, in-state versus out-of-state, geographic area (rural and urban) and majors.

Jarvis Leadership Program (experimental group 2). This program accepts roughly 100 students per year, with 74 first-year students currently enrolled, who are dedicated to enhancing their personal growth, leadership development, and community involvement. There is no specific requirement for a major in the program. Throughout the semester, students interact with university faculty from Campus Living and the Office of Student Engagement, as well as community leaders. Students are required to enroll in COAD 1000: Student Development and Learning in Higher Education for the fall. They are also required to attend organized leadership events and activities such as socials, educational programs, lectures, and community services activities. In order to continue in the program additional years, students must maintain a semester GPA of 2.5 and cumulative GPA of 2.75 GPA. Students are made aware of the opportunity to join the program at orientation. Selection criteria include an online application, two letters of reference and a minimum high school GPA of 3.0. Students are also asked to write an essay in regard to their leadership activities and ability. Faculty and staff of the program choose the most qualified candidates.

Biology LLC (experimental group 3). The purpose of this LLC is to help students who intend to major in biology and biochemistry adapt and succeed at ECU. These students live together with shared academic purpose with courses and tutoring scheduled on site. They regularly interact with faculty and staff from the Biology Department and participate in activities

together such as a ropes course. These students are required to take Freshmen Seminar, General Biology and General Chemistry together and maintain a 3.00 GPA. Students are informed of this opportunity while attending orientation. Those interested are asked to provide their email and the application is sent to them. Applicants were chosen on the basis of GPA, intended major, county of residence, and first-generation college status. Applicants are also asked to describe what community means to them and what an ideal community does for its members in the application process. Faculty and staff members choose the best candidates.

Non-LLC (control group). Students residing in dormitories on campus that are not designated as LLC have the possibility of living with another student regardless of his or her year in school, major, or interests .At East Carolina University, all first-year students are required to live on campus. These students have no set courses required for them to take, other than the foundation curriculum required of all ECU students, and their major and/or minor requirements if they have declared a major and/or minor. They have the ability to attend programs on campus that are open to all undergraduates. There are no requirements to live in these residence halls other than being an ECU student. For research purposes those who have previous LLC experience were excluded.

Procedures

Survey administration. Participants were asked to complete a set of surveys on three separate occasions during the spring semester: 1) at the beginning (within the first two weeks), 2) middle (within the middle two weeks), and 3) end (within the last two weeks). The surveys were administered in two ways to allow more students access and increase participation: 1) in-person in the courses linked with the program that the LLC students were enrolled in and/or the residence hall in which the participants lived; and 2) online via Qualtrics survey software

supported by ECU. During recruitment, potential participants were provided with the website link for completing the first set of surveys online, a list of times they could complete the surveys in-person in the lobbies of their residence halls, and the two-week window start and end dates for completing the survey. Once the two-week time frame passed the surveys were no longer accessible. For the second and third round of surveys, students were contacted through their preferred email provided during the initial survey and provided with the website link to complete the survey, informed where to go to take the in-person survey, and the two-week window start and end dates for completing the survey. When possible, survey administration was done in the courses the LLC students took together. Completion for the second and third administrations of the survey was monitored and participants were sent reminder emails from the researcher to complete the surveys if they had not done so by the end of the first week of each window. In addition, reminder emails from the researcher were forwarded to the LLC participants by the LLC Directors.

Informed consent. The process for obtaining informed consent from participants was different depending on whether they opted to participate online or in-person. . When students interested in participating in the study went to the website for the first set of surveys, they were asked to read an informed consent section and indicate their understanding of it, and agreement to participate in the study voluntarily before beginning the survey. Individuals who chose to take the surveys in person were given a separate informed consent document to fill out on site.

Regardless of whether the process was online or in person, the content presented to participants was the same. This content included the purpose of the study (to examine the effect of residential environment on student well-being) and what was expected of them (completion of a set of surveys three times throughout the spring semester). It included the time commitment,

risks, benefits, and the type of compensation they would receive. It indicated that participation was completely voluntary and they were allowed to withdraw at any time. It provided the contact information of the researcher so the participants could call or email if they had any questions or concerns at any point in the study. They were told that in order to receive compensation for their participation, their names and Banner numbers would need to be sent to the Campus Living Department, but that their individual responses to the survey would not be shared. The students were assured that aside from the information needed for compensation purposes, their identities and individual responses would not be shared with anyone except the researchers, and that this information would remain confidential unless they indicated thoughts of harming themselves or others.

As part of a larger study, potential participants were also asked for their permission for the researcher to obtain the following information from the Registrar's Office: 1) high school GPA, 2) SAT scores, 3) fall semester GPA, 4) spring semester GPA, and 5) cumulative GPA as of the spring semester. This was optional and did not prevent students from participating if they declined to provide their permission.

Depression screening. For all three times points, participant scores on the measure of depressive symptoms were calculated. Participants scoring above the cut-off score that is indicative of clinical depression were contacted by phone. Participants unable to be reached by phone were sent an email asking them to call the researcher about the study. When talking with participants, the researcher told them their survey responses indicated they might be having a hard time with feelings of sadness, that these types of feelings are not uncommon and can be hard to deal with. Participants were then told about free counseling services provided by ECU's Center for Counseling and Student Development that they could use to help with these feelings.

Participant compensation. Each participating student was compensated in pirate bucks, money that can be used at any on campus facility. Participants received \$10 in pirate bucks for the completion of the survey during each of the three time points, for a total of \$30 in pirate bucks. As an additional incentive, participants who successfully completed all three surveys were entered into a raffle to receive one of four \$50 gift cards.

Measures

The first set of surveys included questions about demographics (i.e., sex, age, race/ethnicity, and father and mother education as indices of socioeconomic status) and previous and current LLC membership. In addition, the first survey assessed high school health risk behaviors (i.e., alcohol consumption, sexual risk behaviors, and use of prescription amphetamines) as possible confounding variables as part of a larger study. Each set of surveys contained the mental health measures outlined below, as well as measures assessing college health risk behaviors (alcohol consumption, sexual risk behaviors, and prescription amphetamine use), community engagement and intention to return to ECU as part of a larger study. All mental health measures asked about participant experiences over the previous two weeks to match the two-week windows for survey completion.

College Adjustment Test (CAT). This 19-item self-report survey assesses the degree to which students have experienced a variety of thoughts and feelings about their time in college (Pennebaker, Colder and Sharp, 1990). The items assess three major factors: 1) general negative affect about coming to college (e.g., "worried about how you will perform academically"); 2) positive affect or optimism (e.g., "liked your classes"); and 3) home sickness (e.g., "missed your friends from high school"). Responses range from 1 "not at all" to 7 "a great deal." The CAT asks about the past week, however, this timeframe was changed to two weeks for the current

study. The scores are calculated by summing all items after reverse scoring negatively worded items such that higher scores are indicative of better adjustment. Literature using the CAT found the measure to have sufficient internal consistency with an α of 0.79 (Pennebaker, Colder, and Sharp, 1990). For the current study, the CAT showed sufficient internal consistency ($\alpha=0.86$).

Perceived Stress Scale (PSS). The 10-item version of the PSS (Cohen, Kamarck, and Mermelstein, 1983) is considered the gold standard for assessing subjective, general levels of stress. Items on this survey inquire about how often respondents experienced feeling overwhelmed, unable to control situations and irritation. Responses range from 0-4 where 0 is “never” and 4 is “very often.” The PSS asks about the past month, however, this timeframe was changed to two weeks for the current study. The overall score range is 0-40. The process of scoring the surveys consists of adding up the items after reverse scoring items 4, 5, 7 and 8. The higher score indicates greater levels of stress. Other studies have determined Cronbach’s alpha to be adequate ($\alpha=0.89$) and item-to-total correlations ranged between 0.58-0.72. Convergent validity was deemed adequate via positive correlations with other measures of anxiety and stress (e.g., the Spielberger State-Trait Anxiety Inventory, $r = 0.73$) and divergent validity was also found to be adequate via negative correlations with measures of control (Roberti, Harrington, and Storch 2006). For the current study, the internal consistency of the PSS was sufficient ($\alpha=0.84$).

Zung Anxiety Scale (ZAS). This 20-item questionnaire assess individuals’ anxiety-related cognitive and somatic symptoms (Zung, 1971). Items on this survey inquire about feelings of nervousness, trembling in limbs, physical pain and nightmares. Responses range from 1 “none or little of the time,” to 4 “most or all of the time.” The ZAS asks about the past week,

however, this timeframe was changed to two weeks for the current study. The total score is calculated by adding up the responses and ranges from 20 to 80. Higher scores correspond to a greater number of symptoms of anxiety. Cronbach's alpha was determined to be satisfactory at $\alpha=0.79$, with item-to-total correlations ranging from .45-.76 (Zung, 1971). For the current study, the internal consistency of the ZAS was determined to be sufficient ($\alpha=0.84$).

Center for Epidemiologic Studies-Depression Scale (CES-D). This survey contains 20 items used to assess depressive symptoms (Radloff, 1977). Items on this survey inquire about feelings of helplessness or hopelessness, feelings of guilt, loss of appetite and sleep disturbance. Respondents are asked to indicate how often they experience these symptoms on a scale from 0 to 3, where 0 is "rarely or none of the time (less than 1 day)" and 3 is "all of the time (5-7 days)." The timeframe was changed to two weeks for the current study such that response options included 0 "rarely or none of the time (less than 1 day each week)," 1 "some or a little of the time (1-2 days each week)," 2 "occasionally or a moderate amount of time (3-4 days each week)," and 3 "all of the time (5-7 days each week)." Possible scores range from 0-60, with higher scores indicating greater depressive symptoms. The total score is calculated by adding all items together after reverse scoring items 4, 8, 12, and 16. A score of 16 or more indicates likelihood of clinical depression with a 15% likelihood of a false positive. It is suitable for use in general populations and has strong internal consistency ($\alpha =0.85$; Radloff, 1977). Validity of the CES-D is supported by its ability to discriminate between general and diagnosed samples and its positive correlations with other recognized depression scales (Weissman, Sholomskas, Pottenger, Prusoff, and Locke, 1977). For the current study, the CES-D displayed strong internal consistency ($\alpha=0.91$).

Data Analysis

Once all the data were collected, the researcher proceeded with the following data analysis plan: 1) data screening, 2) examining potential covariates, 3) conducting descriptive statistics for dependent variables, and 4) testing hypotheses. Data screening consisted of reviewing the data thoroughly to identify possible data entry or coding errors and making any necessary corrections, and examining the distribution of study variables and existence of outliers and making transformations when necessary. Examining potential covariates consisted of testing for relationships between potential covariates and each of the mental health dependent variables. Potential covariates that were examined included: age, sex, race/ethnicity, father education, mother education, high school overall health risk, high school alcohol consumption risk, high school prescription amphetamine use risk, high school sexual risk behaviors, high school GPA, and total SAT score. These potential covariates were selected based on Astin's input-environment-outcome model (Astin, 2003), that underscores the importance of controlling for pre-existing differences that may predispose individuals to choose to participate in a LLC. In this model, *outcomes* refer to student outcomes after college exposure (e.g., stress, anxiety symptoms) and are thought to be influenced by both *inputs* (pre-college characteristics) and *environments* (such as the various LLCs, policies, relationships with faculty and peers, and other experiences in which students chose to engage). Including input (potential covariates) in hypothesis testing increases confidence that any significant group differences observed are due to the independent variable (LLC).

Descriptive statistics were calculated for all dependent variables for the total sample, LLC group (combined WLLC and JLP), non-LLC group, WLLC group and JLP group. Initially, testing hypotheses was to be conducted using a series of repeated measures ANCOVAs,

examining changes in mental health dependent variables across the three time points between groups, controlling for possible covariates. As mentioned previously, the participation rates were such that this initial plan was not feasible. Therefore, hypothesis testing focused on the T3 (end of semester) time point and consisted of conducting a series of ANCOVAs to examine group differences in mental health dependent variables at the end of the semester, controlling for possible covariates. The first set of ANCOVAs compared LLC (WLLC and JLP combined) to non-LLC participants to answer research question 1 (are there differences in mental health outcomes between students residing in LLCs and those in traditional, non-living learning residence halls) and test hypothesis 1 (LLC participants will have better college adjustment, lower levels of stress, and fewer anxiety and depressive symptoms compared to non-LLC participants). The second set of ANCOVAs compared WLLC, JLP and non-LLC groups to answer research question 2 (are there differences in mental health outcome between students in LLCs with different themes) and test hypotheses 2 (the WLLC group will have better college adjustment, lower levels of stress and fewer anxiety and depressive symptoms compared to the JLP and non-LLC groups) and 3 (the JLP group will have poorer college adjustment, higher levels of stress and more anxiety and depressive symptoms compared to the non-LLC group).

Chapter III: Results

Data Screening

The data were reviewed thoroughly to identify possible data entry or coding errors and necessary corrections were made. The distributions of the dependent variables were examined. CES-D depressive symptoms scores and ZAS anxiety symptom scores were not normally distributed and therefore were transformed. For the CES-D, a square root transformation was effective in establishing normality, and for the ZAS a log transformation was effective. In all subsequent analyses, these transformed variables were used. However, for interpretation purposes, the untransformed values are reported in tables and text. No outliers were identified for any of the dependent variables.

Potential Covariates

Identifying potential covariates to include in statistical tests of the hypotheses consisted of testing for relationships between potential covariates (Astin's input variables) and each of the mental health dependent variables. Potential covariates that were examined included: age, sex, race/ethnicity, father education, mother education, high school health risk, high school GPA, and total SAT score. The following analyses were employed to test for linear relationships between potential covariates and dependent variables: 1) when both variables were continuous, Pearson Product Moment correlation; 2) when one variable was continuous and the other was dichotomous, parametric ANOVA or point-biserial (for normal data) and non-parametric Kruskal-Wallis or Wilcoxon rank sum test (for non-normal data); 3) when one variable was continuous and the other was categorical with more than two categories, parametric one-way ANOVA (for normal data) and non-parametric Kruskal-Wallis ANOVA (for non-normal data);

4) when both variables were dichotomous and dichotomous, phi coefficient; and 5) when both variables were categorical with more than two categories, chi-square.

Age, sex, race/ethnicity, father education, mother education, and high school GPA were not significantly related to any of the dependent variables. For college adjustment (CAT), anxiety symptoms (ZAS), and depressive symptoms (CES-D), high school overall health risk was the only significant relationship of all potential covariates examined ($r=-.27, p=.013$; $r=.29, p=.007$; $r=.38, p<.001$, respectively). For stress (PSS), the only significant relationship with any potential covariates was with SAT score ($r=-.21, p=.039$). These significantly related input variables were entered as covariates in the relevant ANCOVAs used to test the hypotheses.

Descriptive Statistics

Descriptive statistics were calculated for all dependent variables for the total sample, LLC group (combined WLLC and JLP), non-LLC group, WLLC group and JLP group and are depicted in Table 4.

Table 4. Descriptive statistics for dependent variables by group

Dependent variable	Total sample		LLC		Non-LLC		WLLC		JLP	
	M	SD	M	SD	M	SD	M	SD	M	SD
College adjustment	82.47	17.15	88.20	17.42	78.02	15.68	89.25	15.38	86.47	20.75
Stress	17.53	6.45	16.91	6.75	18.02	6.22	16.21	7.34	18.06	5.66
Anxiety symptoms	35.46	8.14	34.42	7.80	36.26	8.38	34.50	9.23	34.29	4.84
Depressive symptoms	14.56	10.15	13.02	10.28	15.76	9.98	13.07	11.01	12.94	9.26

Hypothesis Testing

Research question 1 and hypothesis 1. A set of ANCOVAs were conducted to answer research question 1 (do LLCs have an effect on mental health outcomes) and test its corresponding hypothesis (hypothesis 1) that LLC participants will have better college adjustment, lower levels of stress, and fewer anxiety and depressive symptoms compared to non-LLC participants. Four separate ANCOVAs were conducted, one for each of the four mental health dependent variables. In each ANCOVA, the fixed factor was LLC group membership (LLC vs. non-LLC). Based on the previous analyses of potential covariates, high school health risk was included as a covariate in the ANCOVAs with the dependent variables of college adjustment (CAT), anxiety symptoms (ZAS), and depressive symptoms (CES-D). For the ANCOVA with the dependent variable of stress (PSS), SAT score was included as a covariate.

Table 4. ANCOVAs and effect sizes for dependent variables for LLC and non-LLC groups

Dependent variable	<i>F</i>	<i>df</i>	<i>P</i>	Significant covariate	Adjusted means		<i>Cohen's d</i>
					LLC	Non-LLC	
College adjustment	7.35	1,84	.008	HS health risk	88.59	78.62	0.58
Stress	0.74	1,102	.391	None	16.91	18.02	-0.17
Anxiety symptoms	0.53	1,84	.468	HS health risk	34.89	36.08	-0.15
Depressive symptoms	1.93	1,84	.169	HS health risk	13.26	15.34	-0.20

The results of these ANCOVAs and calculated effect sizes are included in Table 4. For college adjustment, significant results were found ($p=.008$), showing that the LLC group had higher college adjustment scores indicative of better adjustment compared to the non-LLC

group. This finding controlled for high school health risk, which was a significant covariate. The effect size was medium. While stress, depressive symptoms, and anxiety symptoms were not found to be significant the results were in the hypothesized direction; the LLC group had less stress and fewer symptoms of anxiety and depression than the non-LLC group. Of these, the largest effect size was for depressive symptoms, followed by stress and then anxiety symptoms; with all of these being small effect sizes.

These results provide the following answer to research question 1: LLCs have an effect on mental health outcomes, and it is a beneficial effect. More specifically, the results showed support for hypothesis 1 in that the LLC group had significantly better college adjustment than the non-LLC group, and there was a medium beneficial effect on college adjustment and small beneficial effects on depressive symptoms, anxiety symptoms, and stress.

Research question 2 and hypotheses 2 through 4. A second set of ANCOVAs and effect sizes compared WLLC, JLP and non-LLC groups to answer research question 2 (do LLCs with different themes have differential effects on mental health outcomes) and test hypotheses 2 through 4 comparing the mental health of each paired group (WLLC vs. JLP, WLLC vs. non-LLC, JLP vs. non-LLC).

Table 5. ANCOVAs and effect sizes for dependent variables for WLLC, JLP and Non-LLC groups

Dependent variables	Overall F test				Adjusted means			Post-hoc pairwise comparison					
								WLLC vs. JLP		WLLC vs. Non-LLC		JLP vs. Non-LLC	
	<i>F</i>	<i>df</i>	<i>p</i>	Significant covariates	WLLC	JLP	Non-LLC	<i>p</i>	<i>Cohen's d</i>	<i>p</i>	<i>Cohen's d</i>	<i>p</i>	<i>Cohen's d</i>
College adjustment	3.63	2, 84	0.03	HS Health Risk	88.6	88.58	78.62	0.99	0.00	0.02	0.60	0.07	0.58
Stress	1.2	2, 93	0.31	SAT Score	16.05	18.56	18.25	0.23	-0.37	0.16	-0.33	0.87	0.05
Anxiety symptoms	0.27	2, 84	0.77	HS Health Risk	34.85	33.82	36.31	0.94	0.12	0.51	-0.16	0.66	-0.31
Depressive symptoms	1.17	2, 84	0.32	HS Health Risk	12.45	12.91	15.72	0.52	-0.04	0.13	-0.30	0.64	-0.27

The results of these ANCOVAs are displayed in Table 5. The overall F test was significant for college adjustment, but not for stress, anxiety symptoms, or depressive symptoms. Post-hoc pairwise comparisons examining where the specific differences in college adjustment between groups occurred revealed the following: no significant difference between WLLC and JLP groups; a significantly higher score for the WLLC group compared to the non-LLC group; a higher score for the JLP group compared to the non-LLC group that approached significance.

Regarding effect sizes, when comparing the two LLC groups (WLLC and JLP), there was only one notable effect size, which was a small beneficial effect on stress of WLLC membership over JLP membership. Effect sizes when comparing WLLC to non-LLC showed a medium beneficial effect of WLLC membership on college adjustment, and small beneficial effects of

WLLC membership on stress, anxiety symptoms and depressive symptoms. Effect sizes when comparing JLP to non-LLC showed a medium beneficial effect of JLP membership on college adjustment, small beneficial effects of JLP membership on anxiety symptoms and depressive symptoms, and a negligible effect of JLP membership on stress.

These results provide the following answer to research question 2: LLCs with different themes have differential effects on mental health outcomes; with a wellness themed LLC having slightly greater beneficial effects compared to a leadership themed LLC. More specifically, the results showed at least some support for hypotheses 2, 3 and 4. With regard to hypothesis 2, the WLLC group did not demonstrate significantly greater college adjustment and lower stress, anxiety and depressive symptoms. However, there was a small beneficial effect on stress of the WLLC when compared to the JLP. Pertaining to hypothesis 3, the WLLC group had significantly better college adjustment than the non-LLC group, and there was a medium beneficial effect on college adjustment and small beneficial effects on depressive symptoms, anxiety symptoms, and stress. Regarding hypothesis 4, the JLP group had better college adjustment than the non-LLC group but this difference only approached significance. In addition, there was a medium beneficial effect on college adjustment and small beneficial effects on symptoms of anxiety and depression, but a negligible effect on stress.

Chapter IV: Discussion and Conclusion

The purpose of this study was to examine the effects of LLCs on the mental health of first-year college students, and whether there are differential effects on mental health depending on the theme of the LLC. The findings of the study provide preliminary evidence that LLCs are beneficial to the mental health of first-year students, and that both wellness- and leadership-themed LLCs show beneficial effects, with the wellness-themed LLC having slightly stronger effects.

Research Question 1

This question asked if there were differences in mental health outcomes between students residing in LLCs and those in traditional, non-LLC residence halls. The data displayed that overall the LLC participants had significantly better college adjustment than participants living in traditional residential housing on campus. In addition, LLC membership had small-medium beneficial effects on stress, anxiety symptoms, and depressive symptoms. This was consistent with hypothesis one.

There is currently on research on mental health that compares LLCs to non-LLCs, but two studies on LLCs found similar results when comparing their data to the national averages. Kurotsuchi and Weisman (2003) found that students in LLCs have significantly better college adjustment than national average scores of college adjustment. The only other study, to the researcher's knowledge, that incorporated mental health and LLCs also found low levels of depressive symptoms and decreased stressed in students participating in LLCs compared to national averages (Martin, 2012). Due to the fact this study controlled for so many other possible variables and included covariates, the results are very likely due to the effects of the LLC. Meaning that the program is doing what it is intended to do, which was create a supportive

environment that promotes academic growth, responsibility, and camaraderie among its participants. This was meant to also create a low stress environment that encouraged students to use each other, faculty, and staff as a solid support system. While there were no significant results pertaining to stress, anxiety symptoms, and depressive symptoms they did show lower levels in LLC then Non-LLC. This could be due to the typology of LLCs that we chose, the participant sizes, or that the programs are not directly addressing mental health concerns and that reduced levels are merely a positive side-effect of the programs.

Research Question 2

Question two focused the differences in mental health outcomes between students in LLCs with different themes.

The results provide the following answer to research question 2: LLCs with different themes have differential effects on mental health outcomes; with a wellness themed LLC having slightly greater beneficial effects compared to a leadership themed LLC. More specifically, the results showed at least some support for hypotheses 2, 3 and 4.

For hypothesis 2, the WLLC group did not demonstrate significant results when compared to JLP. However, there WLLC did show a marginal difference when in can to stress, indicating that there was a small beneficial effect compare to JLP. There is currently on literature comparing mental health between different types of LLCs. Perhaps both programs are addressing mental health concerns on the same level and thus no difference was found.

For hypothesis 3, the WLLC group had significantly better college adjustment than the non-LLC group, and there was a small beneficial effects on depressive symptoms, anxiety symptoms, and stress. There is no research that evaluates the effectiveness of WLLCs on reducing mental health concerns when compared to non-LLC groups. Based on the requirements

and purpose of the program, one could evaluate that the LLC is creating a more supportive environment and thus the students are adjusting to college better, but perhaps the health and wellness concerns of the community have a physical emphasis and thus mental health is not being addressed. This would account for the marginal difference. As stated above in hypothesis one, this marginal difference could be accounted for as positive side-effects of the LLCs.

For hypothesis 4, the JLP group had better college adjustment than the non-LLC group but this difference only approached significance. In addition, there was a medium beneficial effect on college adjustment and small beneficial effects on symptoms of anxiety and depression, but a negligible effect on stress. This indicates that the results were not consistent with our hypothesis and thus it was not proven. To the researcher's knowledge, only one study exists comparing academic based LLCs and mental health (Martin, 2012). This study found that academic based LLCs had significantly higher depressive symptoms and marginally higher levels of stress than national averages on non-LLC students. While JLP is classified as an academic community, its main emphasis is on leadership and community engagement, and members in the program are not required to be a part of the same major. These may be reasons why there was not an increase in stress, and symptoms of anxiety and depression. It could be that the LLC is catering appropriately to its students in order to create a positive experience that promotes college adjustment and generally better mental health.

Overall, these expected and unexpected results may be due to a number of factors. LLCs have been shown to positively affect students in several ways. Students in the LLCs may have formed bonds and connections due to the intimate sizes of the programs that provided them with a greater sense of support for one another. This may have encouraged them to reach out to resources and get help if they needed it. This sense of camaraderie can give them the strength

they need to face their problems and not feel as if they are alone. Many of the programs also provide them with continuous contact with faculty and staff. This is also part of the community that can provide each student with additional resources and ultimately ease their transition and decrease negative mental health symptoms. It should also be noted that these questionnaires did not account for mental health problems that were present before the first-year of college.

On another hand, the study was expected to yield greater significant results, but this was not the case. One would have liked to see all four measures having significant difference between LLC vs. non-LLC participants. One explanation could be self-selecting bias of the LLCs. All students who participate in LLCs at East Carolina University want to be a part of them. Also, the residence halls selected for the control group were very similar to those of the LLC students and had equidistant access to on campus facilities such as academic buildings, the gym, the library, and the cafeteria. These results could also be due to the fact that non-LLC participants were not randomly selected, but volunteered to take the survey. This could be an indicator of a student who is already highly involved and motivated on campus. As stated previously, while the results were not significant they were all in the correct direction, indicating that LLCs had fewer symptoms of stress, anxiety, depression, and better college adjustment than non-LLC students.

Practical Implications

While the data did not directly support all of the hypothesis there was some support for hypothesis 1, 2, 3, and 4. For this reason, I find that LLCs are beneficial and they should be implemented on more college and university campuses. The majority of the programs at East Carolina University are very young and still in their learning stages, trying to find ways to improve. A multitude of research, as seen in the literature section, supports LLCs because they

have a positive impact on GPA, yearly retention, and graduation rates, but administration needs put a greater emphasis on the other residual effects as well.

Themed LLCs, like the WLLC and JLP, create the perfect environment because they foster students with similar interests and give them support groups not only other students, but faculty and staff with the exact same interests. This atmosphere helps to develop bonds that aid in better adjustment for students. The results indicated that some possible positive side effects of these programs may be decrease stress, and fewer symptoms of anxiety and depression, but this is not being addressed. Administration should look to make mental health services on campus appear more accessible by providing students with information regarding both on campus and off campus counseling centers. Presentations on mental health would also be beneficial because they can make students feel less alone in regards to seeking help. The communities can also offer special programs such as yoga, mindless meditation, and socials that promote a stress free, happy environment. There is also a greater need for assessment and evaluation of the students in the programs. This could allow for faculty and staff to better cater to their students wants and needs. Once they understand where the deficits in the programs are coming from they can expand their resources, improve on already existing programs, and address problem areas such as mental health and other healthy behaviors.

Strengths

For this study, strengths included the use of a control group, two experimental groups (LLCs with different themes), and control variables. It was also modeled after the National Study of Living Learning Programs, a widely accepted piece of literature that lays out a highly effective plan for evaluating LLCs using the Astin's input-environment-output model (1993) and includes national data that has been collected on LLC research and studies. The control group

allowed for the research to have a base in what the average student living in traditional housing would score on the four mental health measures and the two experimental groups allowed for a better understanding of how different themed LLCs can have different effects on the students participating in them. Astin's I-E-O model (1993) was used, in which outcomes such as student characteristics after college exposure (stress, anxiety symptoms, depressive symptoms, and college adjustment) are thought to be influenced by both inputs (pre-college characteristics, such as age, sex, ethnicity, SES, and high school GPA) and environments, such as the various LLC programs, policies, relationships with faculty and peers, and other experience in which students chose to engage in. Astin (1993) argued that research looking at how college environment influences students will always be biased unless inputs are controlled for. By testing for a multitude of covariates we attempted to isolate the environmental independent variable of interest (LLCs) and control for potential confounding variables (pre-existing group differences) so that we may have greater confidence that the independent variable is what is affecting the dependent variables.

Limitations

Limitations of the study include inability to randomize, participant numbers, participation rates and self-report bias. For non-LLC students, recruitment was on a volunteer basis and accessible to anyone who met the requirements of the study. The sizes of the LLCs also affected participation because the smaller the numbers, the smaller the power. For this reason we had to remove one of the experimental groups, the Biology LLC. Again due to the sample sizes, participation across all three time points fluctuated. This prevented us from using all three time points and ultimately the decision was made to utilize only T3. It should be noted that we attempted to optimize recruitment and improve these numbers by stationing researchers in each

dorm, putting up fliers, and sending out emails. Another limitation is the self-report bias that comes along with using questionnaires as measures. Self-report is not always the most accurate because it is human nature to want to appear more desirable. Some of the questions also require students to recall specific instances from the past which is not always accurate. It may also be that the students were not as engaged in the surveys and wanted to get them done faster or that they were only doing them for the compensation and thus did not put as great emphasis on answering honestly. In order to attempt to control for this it may be a good idea to include a social desirability measure or randomly embedded items that request participants to respond in a certain way in order to catch those not engaged in the questionnaires. If possible, more objective measures would be good to include in the future. Objective measures may be difficult in regard to mental health because they tend to be based on each individual person's subjective experience and thus questionnaires and interviews are most appropriate.

Future Directions

There are several suggestions for future research based on this study and its findings. A longitudinal study across the college experience from the first semester through leaving or graduating would be highly beneficial. By looking at students across multiple time points for all years while in college, one could evaluate the effectiveness of LLCs and see if positive behaviors (reduced mental health, better study habits, reduced drinking, etc.) learned while participating in the programs continued on after the first year of school. Multiple LLCs would also allow for greater comparison of the effectiveness of each theme on the students. As previously mentioned, subjective self-report surveys are important to the study of mental health, but more objective measures would help limit selection bias. Also, it is very important to isolate mechanisms so that it will be easier to target them in order to develop new LLCs and strengthen existing ones.

Finally, future research should re-investigate the role of LLCs on mental health after incorporating these improvements.

As LLCs continue to evolve and increase in popularity, more research will be needed to evaluate the effectiveness of these programs in various outcomes. There is a plethora of evidence and literature that already exist and suggest that LLCs are highly beneficial for students. These programs were created to address a multitude of gaps between academics. Administration is now seeing positive side effects in students, such as increase healthy behaviors. East Carolina University continues to implement new LLCs and thus a more in-depth analysis of these programs is needed. Future research on this topic should incorporate a longitudinal design in order to more fully examine this preliminary evidence so that LCC programs may continue to facilitate first-year students in their transition to college and promote academic success and mental well-being.

References

- American College Health Association. American College Health Association-National College Health Assessment II: Undergraduate Reference Group Executive Summary Fall 2011. Hanover, MD: American College Health Association; 2012.
- Astin, A. W. (1993). What matters in college? Four critical years revisited. San Francisco, CA: Jossey-Bass.
- Berkowitz, A.D. (2004). The social norms approach: theory, research and annotated bibliography. *Higher Education Center*.
- Bozick, R. (2007). Making it through the first year of college: The role of students' economic resources, employment, and living arrangements. *Sociology Education*, 80 (3). 261-284.
- Brower, A.M., Bruffee, K.A., and Zeller, W. (2002). Do Learning Communities Discourage Binge Drinking?. *About Campus*, 7(2), 4-13.
- Butler, K.L, and Dawkins, P.W. (2008). The impact of a "healthy youth" learning community on student learning outcome measures. *The Journal of Negro Education*, 77(3), 264-270.
- Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396. doi:10.2307/2136404
- Eck, J. C., Edge, H., and Stephenson, K. (2007). Investigating Types of Student Engagement Through Living-Learning Communities: The Perspective from Rollins College. *Assessment Update*, 19 (3), 6-8.
- Eisenberg, D., Gollust, S. E., Golberstein, E., and Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *The American Journal of Orthopsychiatry*, 77 (4), 34-42.
- Fisher, S. (1988). Leaving home: Homesickness and the psychological effects of change and

- transition. In S. Fisher and JH. Reason (Eds.), *Handbook of life stress cognition, and health*, 41-59.
- Grizzell, J. (2001). Worksheet 2: Analyzing campus health problems. Retrieved October 19, 2012, from <http://www.csupomona.edu/~jvgrizzell/hpprog/priorityanalyses.htm>
- Hefner, J., Eisenberg, D. (2009). Social Support and Mental Health in a University Student Population. *American Journal of Orthopsychiatry* 79(4): 491-499.
- Hotchkiss, J.L., Moore, R.E., and Pitts, M.M. (2003). Freshmen learning communities, college performance, and retention. *Dissertation*.
- Inkelas, K. K., Soldner, M., Longerbeam, S., and Brown, J. (2008). Differences in student outcomes by types of living-learning programs: The development of an empirical typology. *Research in Higher Education*, 49, 495-512.
- Inkelas, K.K., Daver, Z.E, Vogt, K.E., and Leonard, J.B. (2007). Living-learning programs and first generation college student' academic and social transition to college. *Research In Higher Education*. 48, 403-434.
- Kuh, G. D. (2003). What we're learning about student engagement from NSSE. *Change*, 35(2), 24-32.
- Kurotsuchi, K.I., and Weisman, J.L. (2003). Different by design: an examination of student outcomes among participants in three types of living-learning programs. *Journal of College Student Development*, 44, 335-368. doi: 10.1353/csd.2003.0027
- Lenning, O., and Ebbers, L. (1999). The powerful potential of learning communities: Improving education for the future. ASHE-ERIC Higher Education Report , 26 (6).
- Martin, D.K. (2012). Measuring the impact of a residential learning community on the mental health and well-being of art students in higher education. *Dissertations*. Paper 310.

- National Alliance of Mental Illness. (2010). *Mental illness: Facts and numbers*. Retrieved from <http://nami.org>
- National Mental Health Association and The Jed Foundation. (2002). *Safeguarding your students against suicide: Expanding the safety net*. Proceedings from an expert panel on vulnerability, depressive symptoms, and suicidal behaviors on college campuses.
- Nelms, L.W., Hutchins, E., Hutchins, D., and Pursley, R.J. (2007). Spirituality and the health of college students. *Journal of Religion and Health, 46*, 249-265.
- Pike, G. R., Schroeder, C. C, and Berry, T. R. (1997). Enhancing the educational impact of residence halls: The relationship between residential learning communities and first year college experiences and persistence. *Journal of College Student Development, 38*, 609-621.
- Pennebaker, J.W., Colder, M., and Sharp, L.K. (1990). Accelerating the coping process. *Journal of Personality and Social Psychology, 58*, 528-537.
- Purdie, J.R., and Rosser, V.J. (2011). Examining the academic performance and retention of first-year students in living-learning communities and first-year experience courses. *College Student Affairs Journal, 29*, 95-112.
- Radloff, L.S. (1977). The CES-D Scale: A self report depression scale for research in the general population. *Applied psychological measurement, 1*, 385-401.
- Roberti, J. W., Harrington, L. N., and Storch, E. A. (2006). Further psychometric support for The 10-item version of the perceived stress scale. *Journal of College Counseling, 9*, 135-147.
- Smith, B. L. (2001). *The challenge of learning communities as a growing national movement*. AACandU Peer Review , 4(1).
- Smith, B. L., MacGregor, J., Matthews, R. S., and Gabelnick, F. (2004). *Learning communities:*

- Reforming undergraduate education* (1st ed.). San Francisco: Jossey-Bass A Wiley.
- Speer, N., McFaul, M., and Mohatt, E. (2009, May 15). Nourishing students' mental health in a difficult economy. *The Chronicle of Higher Education*, 55(36), A25-26. Retrieved from <http://chronicle.com>
- Spielberger, C. D., Reheiser, E.C., Ritterband, L.M., Sydeman, S.J., and Unger, K.K. (1995). Assessment of emotional states and personality traits: Measuring psychological vital signs. In Butcher, J.N. (Ed.) *Clinical Personality Assessment: Practical Approaches* (42-52). New York: Oxford University Press.
- Stewart, G. M. (2008). Assessing learning outcomes in living-learning programs: one journey. *Journal of College and University Student Housing*, 35(1), 50-65.
- Trockel, M.T., Barnes, M.D., and Eggert, D.L. (2000). Health-related variable and academic performance among first-year college students: implications for sleep and other behaviors. *Journal of American College Health*. 49(3), 125-131. doi: 10.1080/07448480009596294.
- Weissman, M. M., Sholomskas, D., Pottenger, M., Prusoff, B. A., and Locke, B. Z. (1977). Assessing depressive symptoms in five psychiatric populations: a validation study. *American Journal of Epidemiology*, 106, 203 – 214.
- Winter, M. G., and Yaffe, M. (2000). First-year student Adjustment to university life as function of relationship with parents. *Journal of Adolescent Research*, 15, 19-37.
- Zhao, C., and Kuh, G.D. (2004). Adding value: learning communities and student engagement. *Research in Higher Education*, 45(3), 115-138.
- Zung, William W. (1971). Psychosomatics: *Journal of Consultation Liaison Psychiatry*, 12(6), 371-379.

Appendix A: IRB approval



EAST CAROLINA UNIVERSITY
University and Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building · Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** · www.ecu.edu/irb

Notification of Initial Approval: Expedited

From: Social/Behavioral IRB
To: [Anne Carroll](#)
CC: [Christyn Dolbier](#)
[Heather Wiles](#)
Date: 12/18/2012
Re: [UMCIRB 12-001939](#)
Residential Environment and Student Health

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 12/18/2012 to 12/17/2013. The research study is eligible for review under expedited category #7. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

The approval includes the following items:

Name	Description
------	-------------

Amphetamine Use - High School.doc History	Surveys and Questionnaires
Amphetamine Use - Past 30 Days.doc History	Surveys and Questionnaires
Carroll Thesis Proposal 10-30-12.docx History	Study Protocol or Grant Application
CESD.docx History	Surveys and Questionnaires
College Adjustment History	Surveys and Questionnaires
College Alcohol Survey - High School.doc History	Surveys and Questionnaires
College Alcohol Survey- Past 30 days.doc History	Surveys and Questionnaires
Debriefing Sheet 11-28-12.docx History	Additional Items
Demographics Questionnaire.doc History	Surveys and Questionnaires
Email Recruitment.docx History	Recruitment
High School Involvement.doc History	Documents/Scripts
LLC Dorm Flier 11-24-12 History	Surveys and Questionnaires
Non-LLC Dorm Flier 11-24-12 History	Recruitment
Perceived Stress Scale.docx History	Documents/Scripts
Permission to Release SAT ACT and GPA from Registrar.docx History	Recruitment
Pittsburgh Sleep Quality Index.pdf History	Documents/Scripts
Sense of Community Engagement.doc History	Surveys and Questionnaires
Sexual Health Risk - Past 30 Days.doc History	Surveys and Questionnaires
Sexual Risk Survey - High School.doc History	Surveys and Questionnaires
Survey-Consent-Letter-for-Expedited-Research-In person-11-29-12.doc History	Surveys and Questionnaires
Survey-Consent-Letter-for-Expedited-Research-Online-11-29-12.doc History	Consent Forms
Zung Anxiety Scale History	Consent Forms
	Surveys and Questionnaires

The Chairperson (or designee) does not have a potential for conflict of interest on this study.



EAST CAROLINA UNIVERSITY
University and Medical Center Institutional Review Board Office
 4N-70 Brody Medical Sciences Building· Mail Stop 682
 600 Moye Boulevard · Greenville, NC 27834
 Office 252-744-2914 · Fax 252-744-2284 · www.ecu.edu/irb

Notification of Amendment Approval

From: Social/Behavioral IRB
 To: [Anne Carroll](#)
 CC: [Christyn Dolbier](#)
 [Heather Wiles](#)
 Date: 2/18/2013
 Re: [Ame2_UMCIRB 12-001939](#)
 [UMCIRB 12-001939](#)
 Residential Environment and Student Health

Your Amendment has been reviewed and approved using expedited review for the period of 2/18/2013 to 12/17/2013. It was the determination of the UMCIRB Chairperson (or designee) that this revision does not impact the overall risk/benefit ratio of the study and is appropriate for the population and procedures proposed.

Please note that any further changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. A continuing or final review must be submitted to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The approval includes the following items:

Name	Description	Modified	Version
------	-------------	----------	---------

Current Pre-screener Questionnaires History	Surveys and Questionnaires	2/13/2013 2:59 PM	0.01
Email for Experimentrak Participants History	Recruitment Documents/Scripts	2/5/2013 9:14 AM	0.01

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

IRB00000705 East Carolina U IRB #1 (Biomedical) IORG0000418
 IRB00003781 East Carolina U IRB #2 (Behavioral/SS) IORG0000418 IRB00004973

Appendix B: Measures

Perceived Stress Scale

The following questions ask you about your feelings and thoughts during the **PAST TWO WEEKS**. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

During the past two weeks:	Never	Almost never	Sometimes	Fairly often	Very often
1. How often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. How often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. How often have you felt nervous or "stressed"?	0	1	2	3	4
4. How often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. How often have you felt that things were going your way?	0	1	2	3	4
6. How often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. How often have you been able to control irritations in your life?	0	1	2	3	4
8. How often have you felt that you were on top of things?	0	1	2	3	4
9. How often have you been angered because of things that happened that were outside of your control?	0	1	2	3	4
10. How often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

CES-D

Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt or behaved this way during the **PAST TWO WEEKS**

During the past two weeks:	Rarely or none of the time (less than 1 day each week)	Some or a little of the time (1-2 days each week)	Occasionally or a moderate amount of time (3-4 days each week)	All of the time (5-7 days each week)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
4. I felt like I was just as good as other people.	0	1	2	3
5. I had trouble keeping my mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a failure.	0	1	2	3
10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people disliked me.	0	1	2	3

20. I could not get “going”.	0	1	2	3
------------------------------	---	---	---	---

Zung Anxiety Scale

Indicate how much each of the following statements applied to you within the **PAST TWO WEEKS** by circling the number that corresponds to your response.

During the past two weeks:	None OR A little of the time	Some of the time	Good part of the time	Most OR All of the time
1. I felt more nervous and anxious than usual.	1	2	3	4
2. I felt afraid for no reason at all.	1	2	3	4
3. I got upset easily or felt panicky.	1	2	3	4
4. I felt like I was falling apart and going to pieces.	1	2	3	4
5. I felt that everything was all right and nothing bad would happen.	1	2	3	4
6. My arms and legs shook and trembled.	1	2	3	4
7. I was bothered by headaches, neck and back pains.	1	2	3	4
8. I felt weak and got tired easily.	1	2	3	4
9. I felt calm and could sit still easily.	1	2	3	4
10. I could feel my heart beating fast.	1	2	3	4
11. I was bothered by dizzy spells.	1	2	3	4
12. I had fainting spells or felt like it.	1	2	3	4
13. I could breathe in and out easily.	1	2	3	4
14. I got feelings of numbness and tingling in my fingers, toes.	1	2	3	4
15. I was bothered by stomachaches or indigestion.	1	2	3	4
16. I had to empty my bladder often.	1	2	3	4
17. My hands were usually dry and warm.	1	2	3	4
18. My face got hot and blushed.	1	2	3	4
19. I fell asleep easily and got a good night's rest.	1	2	3	4
20. I had nightmares.	1	2	3	4

College Adjustment Test

The following questions ask about your thoughts and feelings over the **PAST TWO WEEKS**.

During the past two weeks, to what degree have you:	Not at all			Some-what			A great deal
1. Missed your friends from high school.	1	2	3	4	5	6	7
2. Missed your home.	1	2	3	4	5	6	7
3. Missed your parents and other family members.	1	2	3	4	5	6	7
4. Worried about how you would perform academically at college.	1	2	3	4	5	6	7
5. Worried about love or intimate relationships with others.	1	2	3	4	5	6	7
6. Worried about the way you looked.	1	2	3	4	5	6	7
7. Worried about the impression you made on others.	1	2	3	4	5	6	7
8. Worried about being in college in general.	1	2	3	4	5	6	7
9. Liked your classes.	1	2	3	4	5	6	7
10. Liked your roommate(s).	1	2	3	4	5	6	7
11. Liked being away from your parents.	1	2	3	4	5	6	7
12. Liked your social life.	1	2	3	4	5	6	7
13. Liked college in general.	1	2	3	4	5	6	7
14. Felt angry.	1	2	3	4	5	6	7
15. Felt lonely.	1	2	3	4	5	6	7
16. Felt anxious or nervous.	1	2	3	4	5	6	7
17. Felt depressed.	1	2	3	4	5	6	7
18. Felt optimistic about your future at college.	1	2	3	4	5	6	7
19. Felt good about yourself.	1	2	3	4	5	6	7

DR. HECTOR P. GARCIA
TEXAS

18th Annual
National Learning
Communities
Conference

Making Waves

NLCC

NATIONAL LEARNING
COMMUNITIES CONFERENCE

Texas A&M University - Corpus Christi
Delta College • Harper College • Kennesaw State University • Indiana University
Purdue University Indianapolis • Metropolitan Community College-Kansas City

November 7-9, 2013

Corpus Christi, TX

FRIDAY

Bayview Nueces A Nueces B Laguna Madre

8:00-9:30 Breakfast and Welcome Remarks (Corpus C/B)

<p>9:45-10:30</p>	<p>Learning Communities 101</p>	<p><i>X</i> Breaking the Barriers Between Classroom and Community Involvement</p>	<p>Spreading the Message: Communicating and Recruiting for Learning Community Success</p>	<p>Identical Profiles, Different Paths: Comparing Equivalent TLC and Non-TLC Participants to Measure TLC Impact</p>
<p>10:45-11:30</p>		<p>Ancestors: Integrating Biological and Historical Knowledge in a Themed Learning Community</p>	<p>Co-Curricular Activities in Learning Communities: The Importance of Linking Curricular Content to Engaging Events</p>	<p>Are We Doing Things Right and Are We Doing The Right Things? Using the S.E.T.U.P. Assessment Tool</p>

11:45-1:15 Lunch and Keynote (Corpus C/B)

<p>1:30-2:15</p>	<p>Building Learning Community Success with Service Learning: The Story of Spartan Consulting</p>	<p>Promoting the Arts Through a Living Learning Community: STARS Residential College at UCA</p>	<p>Integrating Learning Community, Compressed, and Hybrid Pedagogy into Developmental Education</p>	<p>When the Program Still Works, Fix It Anyway</p>
<p>2:30-3:15</p>	<p>Learning Communities: Life Jackets for At-Risk Students</p>	<p>Seeing Connections: Using Film to Anchor Course Units</p>	<p><i>X</i> Documenting the Positive Health Impacts of a Wellness Themed Living Learning Community</p>	<p>Learning from a Successful Faculty-Led Program Redesign</p>

3:15-3:45 Poster Sessions (Pre-Function Lobby Area, Third Floor)

<p>3:45-4:30</p>	<p>Writing for the Community: Incorporating Triad Themes into First-Year Composition</p>	<p>Washington Center's Online Student Survey: Four Years of Findings and Implications for LC Practice</p>	<p>Professional Development for Learning Community Faculty</p>	<p>First-Year Learning Community: A Holistic View on Transitioning to College</p>
<p>4:45-5:30</p>	<p>Implementing and Assessing SENCERIZED</p>	<p>Washington Center's Validation Study of the Online Student Survey: Unexpected Outcomes and Possibilities</p>		<p>Learning Community for Second Semester Probation Students</p>

6:00-7:00 Cocktail Hour (Corpus C)

<p>Workshops</p>	<p>Program Coordination/ Faculty Development</p>	<p>Themed Learning Communities</p>	<p>Assessment and Retention</p>
------------------	--	------------------------------------	---------------------------------

Friday, November 8, 2:30pm - 3:15pm Breakout Session D

Learning Communities: Life Jackets for At-Risk Students

Room: Bayview

Presenters: Mindy Johnson and Christine Howell; Metropolitan Community College - Penn Valley

Summary of Presentation: Learning communities often provide both an academic and personal support system that is lacking in developmental students' educational experience. Rather than a "sink or swim" approach, developmental education learning communities offer a way to increase connectedness, success, and retention. Presentations will discuss the planning, implementation, and evaluation of a learning community centered on developmental writing and reading combined with a college orientation course. Presenters will discuss the evolution of the learning community as well as the student population served by the community. Retention data will be discussed along with student reactions and success in college level courses.

Track: At-Risk Students

Seeing Connections: Using Film to Anchor Course Units

Room: Nueces A

Presenters: James Gould and Ted Hazelgrove; McHenry County College

Summary of Presentation: Many professors use films in college courses to engage students, present ideas, provide illustrations and make issues relevant. Too often, however, showing a film is simply a voyeuristic exercise – and students, while entertained, do not see it as a text that can foster meaningful learning. We use film – which students view outside of class and which we excerpt in class – for a different reason. Even in an LC, course topics can become disconnected from each other, with students experiencing them as unrelated fragments. In order to create a coherent learning experience, we use a different film to anchor each unit of our Philosophy and English course. These films provide an integrating hub to which the various spokes of the unit connect. In addition, films deepen understanding by connecting abstract ideas to concrete visual images and embedding them in a sustained narrative. In this interactive workshop we model how a film can be used to integrate disciplines and structure an entire course unit.

Track: Integrative Assignments

Documenting the Positive Health Impacts of a Wellness Themed Living Learning Community

Room: Nueces B

Presenters: Anne Carroll and Heather Wiles; East Carolina University

Summary of Presentation: Living Learning Communities (LLCs) provide a unique opportunity to explicitly and indirectly address important issues affecting student health. We address the impact of LLCs on student health by comparing health risk behaviors and mental health symptoms of a Wellness themed LLC to a Biology LLC, a Leadership LLC and to non-LLC students. We emphasize the importance of using a control and comparison groups and utilized Astin's Input-Environment-Output model to control for potential selection bias. The diversity of LLCs included in this study provides an excellent research setting.

Track: Research & Scholarly Activity

Learning from a Successful Faculty-Led Program Redesign

Room: Laguna Madre

Presenters: Meg Horton, Caitlin Spencer and Deb Stanford; University of North Carolina - Greensboro

Summary of Presentation: Three UNCG faculty members who led a redesign of a Residential College program reflect on the lessons learned during the course of the project and describe how faculty worked together to meet the challenge of revitalizing a residential learning community program.

Attendees will hear about the faculty perspective on learning community design and consider the